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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/779,426	02/08/2001	Daniel L. Roth	10663-013001	5617

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EXAMINER	
VO, HUYEN X	

ART UNIT	PAPER NUMBER
2626	

DATE MAILED: 06/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/779,426	ROTH ET AL.	
	Examiner	Art Unit	
	Huyen X. Vo	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 April 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9 and 17-39* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9 and 17-39* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 August 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant has submitted a pre-appeal request, filed 4/7/2006, arguing to traverse the art rejection based on a limitation regarding "*comparing said user's speech command to a plurality of recognized speech commands available in a speech library to determine if said user's speech command is unrecognized speech, as opposed to non-speech*" (last paragraph on page 3 of the pre-appeal request). The applicant's arguments have been fully considered but they are not persuasive. Curry et al. teach a speech detector (*element 220 in figure 2A*) for determining whether the input signal is speech or non-speech before the recognition step. The speech portion of the signal is then passed to the speech recognizer to determine if the speech portion is recognizable or unrecognizable. The legal terminology "comprising" in the preamble of the base claim 1 indicates that the system may include an extra step such as recognizing speech as opposed to unrecognized speech. The steps 220, 230, and 232 in figure 2A together recognize both unrecognized speech as opposed to non-speech and recognized speech as opposed to unrecognized speech. Thus, previous ground of rejection is maintained.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless – (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the

> United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-4, 17-18, 28, 34-35, and 38-39 are rejected under 35 U.S.C. 102(e) as being anticipated by Curry et al. (US Patent No. 6493669).

4. Regarding claims 1 and 17, Curry et al. disclose a feedback process for providing feedback for unrecognized speech comprising:

a speech input process for receiving a speech command as spoken by a user (*abstract section, voice input corresponds to a speech selectable task*); and

an unrecognized speech comparison process, responsive to said speech input process (*elements 220, 230, and 232 in figure 2A*), for comparing said user's speech command to a plurality of recognized speech commands available in a speech library to determine if said user's speech command is unrecognized speech, as opposed to non-speech (*col. 3, lines 31-36*).

5. Regarding claim 28, Curry et al. disclose a feedback process for providing feedback for unrecognized speech comprising:

a speech input process for receiving a speech command as spoken by a user (*abstract section, voice input corresponds to a speech selectable task*);

an unrecognized speech comparison process, responsive to said speech input process (*elements 220, 230, and 232 in figure 2A*), for comparing said user's speech command to a plurality of recognized speech commands available in a speech library to

determine if said user's speech command is unrecognized speech, as opposed to non-speech (col. 3, ln. 31-36); and

an unrecognized speech response process, responsive to said unrecognized speech comparison process determining that said user's speech command is unrecognized speech, for generating a generic response which is provided to said user (col. 4, ln. 25-43).

6. Regarding claims 2 and 18, Curry et al. further disclose that the feedback process further comprises an unrecognized speech response process, responsive to said unrecognized speech comparison process determining that said user's speech command is unrecognized speech, for generating a generic response which is provided to said user (col. 4, ln. 25-43).

7. Regarding claim 3, Curry et al. further disclose that a generic response is a visual response (col. 4, ln. 33-38).

8. Regarding claim 4, Curry et al. further disclose that a generic response is an audible response (col. 4, ln. 33-38).

9. Regarding claim 34, Curry et al. disclose a method comprising:

accepting data representing an audio signal (118 of figure 1);

using speech models to identify the audio signal as belonging to one of three or more categories including: (a) recognized speech, (b) unrecognized speech, and (c) non-speech (*the operation of elements 218-234 in figure 2A*).

10. Regarding claims 35 and 38, Curry et al. further disclose the method of claim 34 further comprising providing feedback according to the category identified for the audio signal (*element 232 in figure 2A*), and wherein the category of recognized speech is identified when the audio signal is unambiguously recognized (*output of element 230 in figure 2A*).

11. Regarding claim 39, Curry et al. further disclose the method of claim 34 wherein identifying the category of the audio signal includes computing a quantity characterizing a match of the audio signal with the speech models and identifying the category according to the computed quantity (*the operation of elements 218-234 in figure 2A*).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

13. Claims 5-8 and 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Curry et al. (US Patent No. 6493669) in view of Epstein (US Patent No. 5465317).

14. Regarding claims 5 and 19, Curry et al. fail to specifically disclose that the unrecognized speech comparison process includes a user speech modeling process for performing an acoustical analysis of the user's speech command and generating a user speech acoustical model for said user's speech command. However, Epstein teaches a process for performing an acoustical analysis of the user's speech command and generating a user speech acoustical model for the user's speech command (col. 4, ln. 13-19). The advantage of using the teaching of Epstein in Curry et al. is to enhance recognition accuracy by comparing acoustic models.

Since Curry et al. and Epstein are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Curry et al. by incorporating the teaching of Epstein in Curry et al. order to enhance recognition accuracy by comparing acoustic models.

15. Regarding claims 6 and 20, the modified Curry et al. al. fails to specifically disclose that the unrecognizable speech comparison process further includes a recognized speech modeling process for performing an acoustical analysis of each of the plurality of recognized speech commands and generating a recognized speech

acoustical model for each recognized speech command, thus generating a plurality of recognized speech acoustical models.

However, Epstein teaches a process for performing an acoustical analysis of each of the plurality of recognized speech commands and generating a recognized speech acoustical model for each recognized speech command, thus generating a plurality of recognized speech acoustical models (col. 5, ln. 15-22, acoustic speech models have already been generated and pre-stored in acoustic command models store 12 of figure 1). The advantage of using the teaching of Epstein in the modified Curry et al. is to enhance the recognition accuracy.

Since the modified Curry et al. and Epstein are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Curry et al. by incorporating the teaching of Epstein in order to enhance the recognition accuracy.

16. Regarding claims 7 and 21, the modified Curry et al. fails to specifically disclose that the unrecognized speech comparison process further includes an acoustical model comparison process for comparing the user speech acoustical model to each of the recognized speech acoustical models, thus defining a plurality of acoustical scores which relate to the user's speech command, one score for each the comparison performed.

However, Epstein teaches a process for comparing the user speech acoustical model to each of the recognized speech acoustical models, thus defining a plurality of

acoustical scores which relate to the user's speech command, one score for each the comparison performed (col. 5, ln. 15-23). The advantage of using the teaching of Epstein in the modified Curry et al. is to provide a mean to select the best recognizing candidate.

Since the modified Curry et al. and Epstein are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Curry et al. by incorporating the teaching of Epstein in order to provide a mean to select the best recognizing candidate.

17. Regarding claims 8 and 22, the modified Curry et al. disclose that the unrecognized speech comparison process further includes an unrecognized speech window process for defining an acceptable range of acoustical scores indicative of unrecognized speech, wherein the user's speech command is defined as unrecognized speech if the acoustical score, chosen from a plurality of acoustical scores, which indicates the highest level of acoustical match falls within an acceptable range of acoustical scores.

However, Epstein teaches a process further includes an unrecognized speech window process for defining an acceptable range of acoustical scores indicative of unrecognized speech (col. 10, ln. 28-33, initializing the recognition threshold defines the recognition and unrecognition ranges), wherein the user's speech command is defined as unrecognized speech if the acoustical score, chosen from a plurality of acoustical

scores, which indicates the highest level of acoustical match falls within an acceptable range of acoustical scores (col. 10, ln. 16-23). The advantage of using the teaching of Epstein in the modified Curry et al. is to define the recognition boundary to allow the system to select or reject the recognition result.

Since the modified Curry et al. and Epstein are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Curry et al. by incorporating the teaching of Epstein in order to define the recognition boundary to allow the system to either select or reject the recognition result.

18. Claims 9 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Curry et al. (US Patent No. 6493669) in view of Epstein (US Patent No. 5465317) and further in view of Gammel et al. (US Patent No. 5832429).

19. Regarding claims 9 and 23, the modified Curry et al. as applied to claim 7 fail to disclose that a plurality of recognized speech commands includes an unrecognized speech entry, the recognized speech modeling process further performs an acoustical analysis on the unrecognized speech entry to generate an unrecognized speech acoustical model for the unrecognized speech entry, and the acoustical model comparison process further compares the user speech acoustical model to the unrecognized speech acoustical model to define an unrecognized speech acoustical score; wherein the user's speech command is defined as unrecognized speech if an

unrecognized speech acoustical score indicates a higher level of acoustical match than any of the plurality of acoustical scores.

However, Gammel et al. teach a process for performing an acoustical analysis on the unrecognized speech entry to generate an unrecognized speech acoustical model for the unrecognized speech entry (col. 1, ln. 30-31 and col. 5, ln. 55-63), and the acoustical model comparison process further compares the user speech acoustical model to the unrecognized speech acoustical model to define an unrecognized speech acoustical score (col. 1, ln. 30-31), wherein the user's speech command is defined as unrecognized speech if an unrecognized speech acoustical score indicates a higher level of acoustical match than any of the plurality of acoustical scores (col. 8, ln. 13-15). The advantage of using the teaching of Gammel et al. in the modified Curry et al. is to create a garbage model used to explain unrecognized speech.

Since the modified Curry et al. and Gammel et al. are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Curry et al. by incorporating the teaching of Gammel et al. in order to create a garbage model used to explain unrecognized speech.

20. Claims 24-27 and 36-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Curry et al. (US Patent No. 6493669).

21. Regarding claim 24, Curry et al. fail to specifically disclose computer program product residing on a computer readable medium having a plurality of instructions stored thereon which, when executed by the processor, cause that processor to perform the method disclosed claim 10. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the feedback process of claim 10 in software to perform feedback for unrecognized speech. The benefit of doing this is to let the user know that the input speech command is unrecognized so that the user inputs a different command.

22. Regarding claims 25, 26, and 27, Curry et al. fail to specifically disclose the computer readable medium is a random access memory (RAM), read only memory (ROM), a hard disk drive, respectively. However, it would have been obvious to one of ordinary skill in the art that RAM, ROM, and hard disk drive are storage media of a computer. The advantage of this is to provide a convenient way to maintain and update the system.

23. Regarding claims 36-37, Curry et al. further disclose a speech detector for determining if the input signal is a speech signal or non-speech signal (*element 220 in figure 2A*), but fail to specifically disclose that the category of non-speech includes background noise and background speech. However, it is well known to a person of ordinary skill in the art that background noise and background speech are classified non-speech signal. Therefore, it would have been obvious to one of ordinary skill in the

art at the time of invention to consider background speech and background noise non-speech signal in order to detect and screen out these background sound artifacts to enhance speech recognition accuracy.

24. Claims 29-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Curry et al. (US Patent No. 6493669) in view of Franz et al. (US Patent No. 6278968).

25. Regarding claims 29-32, Curry et al. fail to specifically disclose that the processor and memory are incorporated into a wireless communication device, cellular phone, a personal digital assistant, palmtop computer, and child's toy, respectively. However, Franz et al. teach that the processor and memory are incorporated into a wireless communication device (col. 9, ln. 16), cellular phone (col. 9, ln. 16), a personal digital assistant (col. 9, ln. 16), and palmtop computer (col. 9, ln. 16, PDA is a palmtop computer). The advantage of using the teaching of Franz et al. in Curry et al. is to provide a mean for storing application programs used to process the input speech.

Since Curry et al. and Franz et al. are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Curry et al. by incorporating the teaching of Franz et al. in order to provide a mean for storing application programs used to process the input speech.

26. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Curry et al. (US Patent No. 6493669) in view of Gabai et al. (US Patent No. 6160986).

27. Regarding claim 33, Curry et al. fail to specifically disclose that a processor and memory are incorporated into a child's toy. However, Gabai et al. teach that a processor and memory are incorporated into a child's toy (figures 6 and 7). The advantage of using the teaching of Gabai et al. in Curry et al. is to provide a mean for storing application programs used to process the input speech.

Since Curry et al. and Gabai et al. are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Curry et al. by incorporating the teaching of Gabai et al. in order to provide a mean for storing application programs used to process the input speech.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huyen X. Vo whose telephone number is 571-272-7631. The examiner can normally be reached on M-F, 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on 571-272-7602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HXV

6/20/2006

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RICHEMOND DORVIL
SUPERVISORY PATENT EXAMINER